

REMARKS

This is in response to the July 7, 2006 office action in which the Examiner rejected all of the claims on the basis of prior art under Section 103 and also rejected some of the claims on the basis of double patenting based on US Patent No. 6,641,663.

Applicant thanks Examiner Dehghan and Supervisory Patent Examiner Griffin for the August 31, 2006 interview with the undersigned attorney for applicant. In that interview we discussed amending *inner layer* to *innermost layer*. Applicant argued that this would clarify the claim scope and clearly distinguish it from Watanabe *et al.* No agreement was reached concerning whether such an amendment would raise new issues, and therefore not be entered, nor whether the claim as amended would distinguish it over the art of record. Examiner Dehghan did offer that if Watanabe *et al.* only disclosed a doped intermediate layer that such an amendment would likely distinguish the claimed invention from Watanabe *et al.*

Applicant has cancelled all of the claims except for independent claim 44—and the claims depending therefrom—and independent claim 52—and the claims depending therefrom. Applicant has also amended claims 44 and 52 for clarity. As pointed out in brief in applicant's last submission, both of these independent claims correspond to claims allowed in the parent application, Serial No. 09/906,879, over the same art that the current Examiner relies on to reject the claims. Applicant understands that the present Examiner is not bound by the acts of the Examiner in the parent application, but believes that the parent application provides guidance in the present circumstances.

First, here is allowed claim 1 from the parent application:

1. A crucible comprising:
a crucible wall including a bottom wall and side wall;
an aluminum-doped inner layer formed on an inner portion of said crucible wall, said inner layer having a thickness in the range of 0.2mm to less than 0.5mm; and
an aluminum-doped outer layer formed on an outer portion of said crucible wall.

As can be seen by comparing this claim with claim 44 above, the limitations between the allowed apparatus claim and the pending method claim correspond exactly. Applicant has, however, amended claim 44 to clarify that the silica grain doped with aluminum forms an *innermost* layer of the crucible. This is in sharp contrast to Watanabe *et al.* Although the Examiner has cited Watanabe *et al.* for disclosing “an inner layer” and “another innermost layer,” a close reading of Watanabe *et al.* demonstrates that only an *intermediate* layer 4a in Figs. 1 and 2 is doped with aluminum. Applicant uses the term *innermost* in amended claim 44 in the sense of its ordinary dictionary meaning: “situated or occurring furthest within.” *The American Heritage Dictionary of the English Language* (3rd ed. 1996). In contrast, Watanabe *et al.* has an innermost layer that is a “transparent quartz glass layer with high purity.” Watanabe *et al.*, Col. 2, Lines 22-23.

In addition, claim 44 is also distinguished from Nunome *et al.* Admittedly, Nunome *et al.* discloses an aluminum doped outer layer. And the Examiner applies this reference to claim 44 by indicating it would be obvious to use the .4mm thick aluminum doped outer wall of Nunome *et al.* with a concentration of 110 ppm in the crucible of Watanabe *et al.* But claim 44 is directed to an innermost doped layer. While Nunome *et al.* discloses small amounts of gradually decreasing aluminum doping in an innermost layer, it does not disclose an intermediate bulky wall consisting essentially of quartz grain, i.e., essentially no aluminum.

Finally, applicant has added a new dependent claim with a limitation that requires the doping of the innermost layer to be substantially homogenous. None of the art of record discloses homogenous doping of an innermost layer having a thickness of .2mm to less than .5mm. This is not a new limitation because it corresponds to the homogenous limitation in claim 52.

Here is allowed claim 17 from the parent application:

17. A silica glass crucible, comprising:
a crucible wall including a bottom wall and a side wall;
an interior cavity defined by said crucible wall; and
an inner layer formed on the innermost portion of said crucible wall;
wherein said inner layer has a depth in the range of from 0.2mm to less than 0.5mm and is homogeneously doped with aluminum in the range of about 50–500ppm.

These limitations track those in pending claim 52. As with claim 44 the claim is amended for clarity. For the same reasons outlined above, applicant submits that claim 52 is also allowable and requests reconsideration in light of this submission.

Applicant addresses the double patenting rejection with the accompanying terminal disclaimer.

For the foregoing reasons, reconsideration and allowance of all pending claims as amended is requested. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

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Respectfully submitted,

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